A Current Assessment of Gross Land Supply in the Greater Golden Horseshoe

Prepared by
Ontario Growth Secretariat
Ministry of Public Infrastructure Renewal

Issue I

Winter 2005

NOTE TO READERS

In order to assess land supply in the Greater Golden Horseshoe, a number of data sources are required. As official plans change, as mapping systems improve, and as the urban form develops, these sources of information are constantly being refined and updated. The information contained in this technical paper is based on current available data drawn from regional and local official plans and Province of Ontario resources.

It is important to emphasize that this analysis is undertaken at the scale of the Greater Golden Horseshoe and upper-tier levels of municipal government. The boundaries displayed in the maps included in this document are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

Note:

The Size of Municipality amount may not always equal the sum of each individual amount due to minor discrepancies in data sources and some double counting of settlement areas.

Ontario Growth Secretariat staff will continue to refine the calculations included in this document.

105-03301/

EXECUTIVE SUMMARY

A Current Assessment of Gross Land Supply in the Greater Golden Horseshoe provides an overview of gross land supply in the Greater Golden Horseshoe (GGH), and outlines the assumptions and definitions that have been used in determining land supply figures. The technical paper focuses on the amount of land that is currently urbanized (i.e. built upon), lands that are designated for settlement (but not currently built), those lands that are identified through various provincial natural heritage plans or proposed plans and lands that are not currently designated for urban uses. This document addresses gross land area estimates. For a discussion of gross vs. net land supply, please see page 7.

Summary tables for the Greater Golden Horseshoe and the Greater Toronto Area and Hamilton are provided on pages 11 and 12. The tables show the amount of land identified for each defined type of land use. A profile has also been developed for each Region and County in the Greater Golden Horseshoe as well as the cities of Hamilton, Kawartha Lakes and Toronto.

The information in this paper has been compiled by the Ministry of Public Infrastructure Renewal. This document is one of many inputs in the on-going development of a draft GGH Growth Plan. Other recent inputs include:

- *The Outlook for Growth in the Greater Golden Horseshoe Area*, Hemson Consulting Ltd. (January, 2005). This technical paper outlines population, household and employment projections to the year 2031 for the Greater Golden Horseshoe; and
- *Application of a Land-Use Intensification Target for the Greater Golden Horseshoe*, Urban Strategies Inc. (Winter, 2005).

It is also important to recognize that similar work assessing current land supply in this geographical area is being undertaken by other organizations including the Neptis Foundation and Malone Given Parsons for the Urban Development Institute (UDI). See Appendix A for a brief comparison of methodologies. Although different data sets and methodological approaches have been used to develop these land supply figures, gross land area estimates are generally similar. The work of these organizations has been a valuable input into this work.

It is also important to recognize that the Province is developing a Greenbelt Plan in the Golden Horseshoe to permanently protect greenspace and contain urban sprawl. Calculations in this document assume the boundaries proposed in the draft Greenbelt Plan (October, 2004) within the Greater Golden Horseshoe Study Area. This analysis does not include the portion of the Niagara Escarpment in Bruce County and Grey County. Any amendments to the proposed boundaries of the draft Greenbelt Plan area may alter the gross land supply numbers tabled in this document.

Table of Contents

NOTE TO READERS	1
EXECUTIVE SUMMARY	2
PURPOSE OF THIS TECHNICAL PAPER	5
PREFACE - PLACES TO GROW INITIATIVE	6
DEFINITIONS AND DATA SOURCES	7
FACTS ON LAND SUPPLY FIGURES - HECTARES	11
FACTS ON LAND SUPPLY FIGURES - ACRES	12
LAND INVENTORY PROFILES BY MUNICIPALITY	13
GREATER GOLDEN HORSESHOE	14
COUNTY OF BRANT	16
COUNTY OF DUFFERIN	17
REGION OF DURHAM	18
COUNTY OF HALDIMAND	19
REGION OF HALTON	20
CITY OF HAMILTON	21
CITY OF KAWARTHA LAKES	22
REGION OF NIAGARA	23
COUNTY OF NORTHUMBERLAND	24
REGION OF PEEL	25
COUNTY OF PETERBOROUGH	26
COUNTY OF SIMCOE	27
CITY OF TORONTO	28
REGION OF WATERLOO	29
COUNTY OF WELLINGTON	30
REGION OF YORK	31
APPENDIX A: Other Land Supply Analyses in the Greater Golden Horseshoe	32
APPENDIX B: Factors that Impact Land Demand	33

PURPOSE OF THIS TECHNICAL PAPER

The purpose of this technical paper is to provide an inventory of gross land supply in the Greater Golden Horseshoe (GGH). Understanding current land uses is important in the development of a draft growth plan for the GGH. In order to prepare for future growth in the region, it is necessary to understand current land uses and availability.

The analysis focuses on broadly defined land uses within the GGH such as urbanized land, designated settlement area, non-urban land, and areas currently identified by the draft Greenbelt Plan, Oak Ridges Moraine Conservation Plan, and the Niagara Escarpment Plan and other protected greenspaces such as Federal Parks, Provincial Parks and Conservation Lands. The definitions for each of the categories are provided. The analysis does not provide land-use information on specific parcels of land and it does not 'net out' particular land uses such as municipal parks, streams or utility corridors. It also does not provide information on hamlets and smaller towns and villages. This analysis is based on and is undertaken at the scale of the GGH study area (shown in Illustration 1). It is not intended for application at a specific local or neighbourhood scale.

The data upon which this analysis is based is drawn from a number of different sources, which are indicated in the document. Definitions of the land use categories are also provided.

This technical paper is one of many inputs into the development of a draft Greater Golden Horseshoe Growth Plan. Other inputs include technical papers on future growth projections that are described in *The Outlook for Growth in the Greater Golden Horseshoe Area* (Hemson Consulting Ltd., January 2005) and an overview of land use intensification targets in *Application of a Land-Use Intensification Target for the Greater Golden Horseshoe* (Urban Strategies Inc., Winter 2005).

Illustration 1: The Greater Golden Horseshoe Study Area. Map shows upper and single tier municipalities included in this analysis.

PREFACE - PLACES TO GROW INITIATIVE

Over the next 30 years, it is expected that substantial growth will occur in the Greater Golden Horseshoe. This region encompasses Ontario's fastest-growing communities and it is estimated that the region can expect growth of 3.7 million new people and almost 1.8 million new jobs by 2031 (*The Outlook for Growth in the Greater Golden Horseshoe Area*, Hemson Consulting Ltd., January 2005).

To address and benefit from this rapid growth, the provincial government released the Discussion Paper entitled *Places to Grow: Better Choices. Brighter Future: A Growth Plan for the Greater Golden Horseshoe* in July 2004.

In October 2004, Bill 136, the Places to Grow Act 2004 was tabled in the Ontario Legislature. It is anticipated that a Growth Plan for the Greater Golden Horseshoe would be established under the *Places to Grow Act*, if it is enacted. A Growth Plan for the Greater Golden Horseshoe would be an important tool for realizing the government's vision for strong, prosperous, diverse and healthy communities.

A Growth Plan for the GGH would:

- Provide a vision and a strategic blueprint for growth over the next 30 years in the Greater Golden Horseshoe area;
- Promote greater collaboration among province, municipalities and the federal government;
- Encourage efficient land use in those existing urban areas that can best accommodate growth;
- Identify valuable natural and agricultural lands which should not be developed; and,
- Identify and prioritize major infrastructure needs to ensure that the Greater Golden Horseshoe is equipped to accommodate new growth.

With the high level of growth expected, it is critical to understand how these additional people and jobs can be accommodated in the region. This technical paper provides baseline information on land supply to aid in this discussion on where and how the region can grow in the future.

It is also important to recognize that the Province is developing a Greenbelt Plan in the Golden Horseshoe to permanently protect greenspace and contain urban sprawl. Calculations in this document assume the boundaries proposed in the draft Greenbelt Plan (October, 2004) within the Greater Golden Horseshoe Study Area. This analysis does not include the portion of the Niagara Escarpment in Bruce County and Grey County. Any amendments to the proposed boundaries of the draft Greenbelt Plan area may alter the gross land supply numbers tabled in this document.

DEFINITIONS AND DATA SOURCES

Municipalities Included in the Study

Land inventory data has been collected for 16 upper-tier municipalities in the Greater Golden Horseshoe. The paper includes profiles on the cities of Hamilton, Kawartha Lakes and Toronto; the Regions of Durham, Halton, Niagara, Peel, Waterloo and York; and the Counties of Brant, Dufferin, Haldimand, Northumberland, Peterborough, Simcoe and Wellington.[1]

Clarification of Terminology

This paper examines long-term land supply in the Greater Golden Horseshoe. It focuses on land that has been designated by municipal authorities as settlement area, land that has been protected or is proposed to be protected from urban development through provincial plans or as federal parks, provincial parks or conservation authority lands and land that is not currently designated as urban.

The technical paper does not assess the supply of short-term housing approved for development, as studied by the Greater Toronto Area Residential Land Inventory Survey prepared by the Ministry of Municipal Affairs and Housing and Canada Mortgage and Housing Corporation. That exercise measures housing units already approved for development and thus reports on short-term housing supply within the GTA and helps determine whether municipalities are meeting the residential unit supply policies of the Provincial Policy Statement, which states that municipalities must have at least a three-year supply of residential units in draft approved or registered plans. This document does not address the question of short-term housing supply.

This document also does not assess criteria for the rate of consumption of land for future development. The information provided here provides baseline data that will allow for this analysis through the Growth Plan process. Please see Appendix B for a brief overview of factors that have an impact on land demand.

Gross Area vs. Net Area

Gross land area estimates have been utilized to derive land supply figures in each category. For example, this analysis does not "net out" the following from the various land categories:

- Natural features such wetlands or woodlots and municipal parks;
- Major institutions such as schools and hospitals;
- Native Lands;
- Major infrastructure sites such as:
  - Hydro corridors;
  - Landfills;
  - Highways (existing / planned);
  - Transit systems; and
  - Rail corridors.

[1] In total five separated cities are in the GGH and their corresponding land supply figures are found in the following counties: Barrie and Orillia in Simcoe County; Brantford in Brant County; Peterborough (City) in Peterborough County; and Guelph in Wellington County.

The analysis has identified significant protected greenspaces such as federal parks, provincial parks, conservation authority lands and vacant exempt lands. These are not identified in map illustrations.

When reviewing gross figures, it is important to keep in mind that not all of the land that is indicated as non-urban or designated for growth is appropriate for urban development. These areas can include, for example, natural heritage features or utility corridors which are inappropriate for urban development. Similarly, environmental standards can affect the amount of land that is available for development purposes. For example, the width of a buffer along river and stream banks can have an impact on the amount of land that could potentially be available for future development.

Also, various standards, including building codes, environmental and safety standards for transportation facilities, educational facilities and standards for parkland dedication all have impacts on the amount of land that is available to accommodate future residential and employment development. These considerations are not reflected in the gross figures. This document provides a starting point from which to undertake further analysis on net land supply.

Table 1 provides some examples of lands or land uses that have not been deducted from respective gross land areas unless specifically noted.

Table 1: Examples of land uses included in gross area calculations

Area	Municipality Affected
Pickering Airport Lands Pickering Nuclear Station Darlington Nuclear Station	Durham
John C. Munro Airport	Hamilton
various minor lakes in Trent-Severn System	Kawartha Lakes
Lester B. Pearson Airport	Peel
Otonabee River	Peterborough
Minesing Swamp	Simcoe
Downsview Airport	Toronto
Waterloo Regional Airport	Waterloo
Speed River	Wellington
Holland Marsh	York

Population (2001)

Population of the municipality in 2001 based on adjusted census data. Source: Statistics Canada, 2001; the same base data was used in *The Outlook for Growth in the Greater Golden Horseshoe Area*, Hemson Consulting Ltd., January 2005.

Size of Municipality (2003)

Defined as the total gross area of a municipality (Region, County or City). Source: municipal boundary data, Ministry of Municipal Affairs & Housing, 2003.

Designated Settlement Area (December, 2004)*

This data layer reflects settlement boundaries as designated in currently approved municipal Official Plans and includes lands that are approved for urban uses such as residential, commercial, industrial and institutional. This figure includes both urbanized, unbuilt and protected greenspace lands. Designated Settlement Areas lying within the Greenbelt Plan are included in this figure. This is a gross-area figure. Source: Ministry of Municipal Affairs and Housing, dated December 20, 2004.

Built-up Urbanized Area (2004)*

This figure is for lands that have been developed and built-up with typical urban uses such as residential, industrial, commercial, institutional and utility lands. It is derived from datasets drawn from the Municipal Property Assessment Corporation (MPAC) and Teranet. Calculations have been done on an aggregate basis using a fine mesh of grids and include associated roads and allowances. For this version, no smoothing of grid cells has been undertaken nor has a population threshold been used to filter out smaller hamlets. Only lands within the designated settlement area have been designated built. This is a gross-area calculation. This does not represent all built areas within the Greater Golden Horseshoe as it excludes built areas outside the designated settlement areas. Source: Ministry of Public Infrastructure Renewal (using MPAC and Teranet data).

Protected Greenspace (2004)*

This figure is for lands that have been identified on the source documents as specifically being a Federal park, a Provincial park, conservation authority lands or vacant exempt land. It is derived from datasets drawn from the Municipal Property Assessment Corporation (MPAC) and Teranet. Calculations have been done on an aggregate basis using a fine mesh of grids and include associated roads and allowances. For this version, no smoothing of grid cells has been undertaken. This calculation is for lands outside the Greenbelt plan and can occur inside or outside the designated settlement area. This is a gross-area calculation. This classification is not complete as many such lands are also included in the unclassified / unavailable category. This area is not illustrated on the maps in this document. Source: Ministry of Public Infrastructure Renewal (using MPAC and Teranet data).

Designated Growth Area (2004)*

This figure reflects the area of Designated Settlement Area less Built-Up Urbanized Area less Protected Greenspace, and gives an approximate reading of how much Designated Settlement Area remains unbuilt and is available for future growth as per currently approved municipal Official Plans. It includes associated roads and lands that may not be suitable for development such as those close to waterways or on steep inclines. It is a gross-area calculation.

Total Area of Draft Greenbelt Plan (2004)*

This is the total gross area as shown in the Draft Greenbelt Plan within the Greater Golden Horseshoe Study Area. It does not include the portion of the Niagara Escarpment in Bruce County and Grey County. It is important to note that the boundaries indicated in this document are subject to change, pending passage of the proposed Bill 135. Designated Settlement Areas within the Draft Greenbelt Plan are included in this figure. This may result in double-counting in those municipalities where there are Draft Greenbelt lands identified. The total area shown for each municipality also includes the areas of the Oak Ridges Moraine Conservation Plan and the Niagara Escarpment Plan. Source: Ministry of Municipal Affairs and Housing, 2004.

Area occupied by Oak Ridges Moraine Conservation Plan (2003)

Total gross area of the Oak Ridges Moraine Conservation Plan. Source: Ministry of Natural Resources and Ministry of Municipal Affairs & Housing.

Area Occupied by Niagara Escarpment Plan (2002)

Total gross area as defined in the Niagara Escarpment Plan. Source: Ministry of Natural Resources and Ministry of Municipal Affairs & Housing.

Currently Designated Non-Urban Land

This figure reflects the area lying outside of the proposed Draft Greenbelt Plan area (including the Oak Ridges Moraine and Niagara Escarpment) and outside of the Designated Settlement Area. It includes lands identified in currently approved municipal Official Plans as rural countryside, agricultural and other uses including some waste management sites, transportation and other infrastructure. This figure also includes protected greenspace lying outside of designated settlement areas and the draft Greenbelt Plan. This figure does not include areas for major open, land-locked waterbodies such as Lake Simcoe, Lake Ontario, Lake Erie, Georgian Bay, Lake Couchiching, Rice Lake, Lake Scugog, the larger Kawartha Lakes, Hamilton Harbour, lower Grand River and the Welland Canal. This is a gross-area figure.

***Note:** The boundaries illustrated in the maps in this document are draft and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

FACTS ON LAND SUPPLY FIGURES - HECTARES

Table 2: GREATER GOLDEN HORSESHOE

all figures in hectares

Population (2001)		**7,789,400 people**
Size of the Greater Golden Horseshoe		**3,223,300**
Designated Settlement Area		**449,100**
Built-Up Urbanized Area	290,200	
Protected Greenspace (not shown on map)	16,400	
Designated Growth Area	142,500	
Draft Greenbelt Plan Area		**701,800**
Oak Ridges Moraine Conservation Plan	190,300	
Niagara Escarpment Plan	91,200	
Designated Non-Urban Area		**2,121,100**
Protected Greenspace (not shown on map)	179,700	
Remaining lands designated Non-Urban	1,941,400	

Table 3: GREATER TORONTO AREA + HAMILTON

all figures in hectares

Population (2001)		**5,811,400 people**
Size of the Greater Toronto Area + Hamilton		**830,900**
Designated Settlement Area		**280,200**
Built-Up Urbanized Area	197,100	
Protected Greenspace (not shown on map)	12,400	
Designated Growth Area	70,700	
Draft Greenbelt Plan Area		**526,100**
Oak Ridges Moraine Conservation Plan	124,800	
Niagara Escarpment Plan	47,000	
Designated Non-Urban Area		**63,000**
Protected Greenspace (not shown on map)	2,800	
Remaining lands designated Non-Urban	60,200	

FACTS ON LAND SUPPLY FIGURES - ACRES

Table 4: GREATER GOLDEN HORSESHOE

all figures in acres

Population (2001)		**7,789,400 people**
Size of the Greater Golden Horseshoe		**7,964,800**
Designated Settlement Area		**1,109,400**
Built-Up Urbanized Area	716,900	
Protected Greenspace (not shown on map)	40,500	
Designated Growth Area	352,000	
Draft Greenbelt Plan Area		**1,734,100**
Oak Ridges Moraine Conservation Plan	470,300	
Niagara Escarpment Plan	225,300	
Designated Non-Urban Area		**5,241,400**
Protected Greenspace (not shown on map)	444,200	
Remaining lands designated Non-Urban	4,797,200	

Table 5: GREATER TORONTO AREA + HAMILTON

all figures in acres

Population (2001)		**5,811,400 people**
Size of the Greater Toronto Area + Hamilton		**2,053,200**
Designated Settlement Area		**692,300**
Built-Up Urbanized Area	487,000	
Protected Greenspace (not shown on map)	30,600	
Designated Growth Area	174,700	
Draft Greenbelt Plan Area		**1,299,900**
Oak Ridges Moraine Conservation Plan	305,500	
Niagara Escarpment Plan	116,200	
Designated Non-Urban Area		**156,000**
Protected Greenspace (not shown on map)	7,100	
Remaining lands designated Non-Urban	148,900	

LAND INVENTORY PROFILES BY MUNICIPALITY

Greater Golden Horseshoe
County of Brant
County of Dufferin
Region of Durham
County of Haldimand
Region of Halton
City of Hamilton
City of Kawartha Lakes
Region of Niagara
County of Northumberland
Region of Peel
County of Peterborough
County of Simcoe
City of Toronto
Region of Waterloo
County of Wellington
Region of York

Note on reading the land supply profiles

- Figures are based on the best available data and continue to be refined. Data in this report is current to the dates indicated in the definitions section above.
- All figures for urbanized and designated settlement areas currently include all land uses such as residential, industrial, institutional, infrastructure and natural features.
- The data is reported as gross land area.
- Maps provided in each of the profiles are provided for illustrative purposes only.
- Figures for the draft Greenbelt Plan area are considered draft and are subject to revision.
- Population figures provided are based on 2001 Census, Statistics Canada and are provided for descriptive purposes.
- Rounding issues: Please note that subtotals may not add up to totals due to rounding. Data has been rounded to the nearest 100.
- To convert acres to hectares divide by 2.471

GREATER GOLDEN HORSESHOE

all figures in acres

Population (2001)		**7,789,400 people**
Size of the Greater Golden Horseshoe		**7,964,800**
Designated Settlement Area		**1,109,400**
Built-Up Urbanized Area	716,900	
Protected Greenspace (not shown on map)	40,500	
Designated Growth Area	352,000	
Draft Greenbelt Plan Area		**1,734,100**
Oak Ridges Moraine Conservation Plan	470,300	
Niagara Escarpment Plan	225,300	
Designated Non-Urban Area		**5,241,400**
Protected Greenspace (not shown on map)	444,200	
Remaining lands designated Non-Urban	4,797,200	

DRAFT
Legend
Designated Settlement Area
Built-Up Urbanized Areas
Draft Greenbelt Plan
Niagara Escarpment Plan / Oak Ridges Moraine
Designated Non-Urban Area
Sources: Ministry of Natural Resources, Ministry of Public Infrastructure Renewal, & Ministry of Municipal Affairs and Housing
Date: Winter 2005
20 10 0 20 40 Km
N

The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

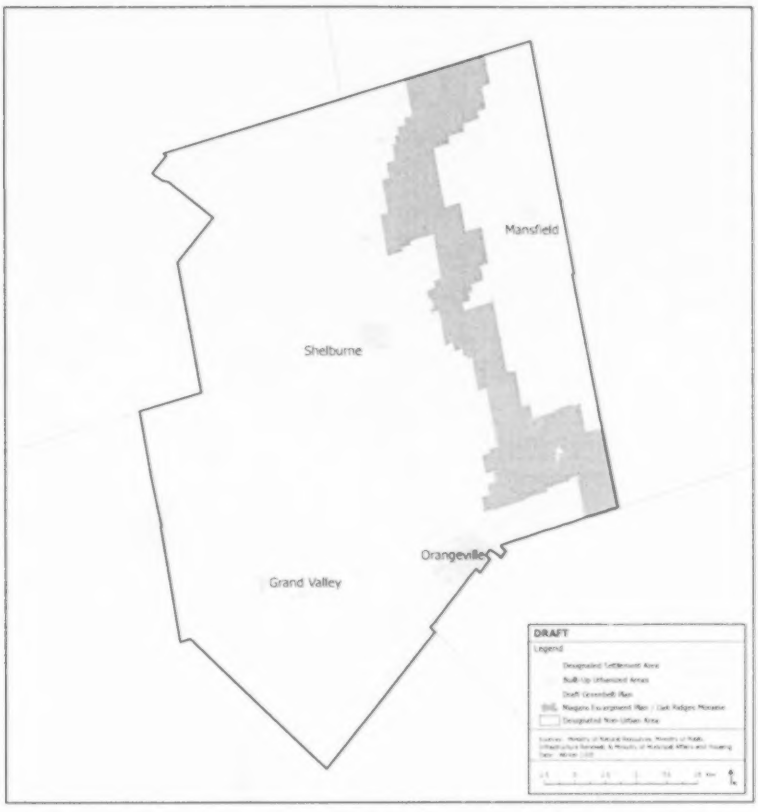
GREATER GOLDEN HORSESHOE

The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

COUNTY OF BRANT

all figures in acres

Population (2001)		**128,900 people**
Size of the County of Brant		**273,000**
Designated Settlement Area		**35,900**
Built-Up Urbanized Area	17,600	
Protected Greenspace (not shown on map)	900	
Designated Growth Area	17,400	
Draft Greenbelt Plan Area		**n/a**
Oak Ridges Moraine Conservation Plan	n/a	
Niagara Escarpment Plan	n/a	
Designated Non-Urban Area		**237,100**
Protected Greenspace (not shown on map)	6,400	
Remaining lands designated Non-Urban	230,700	



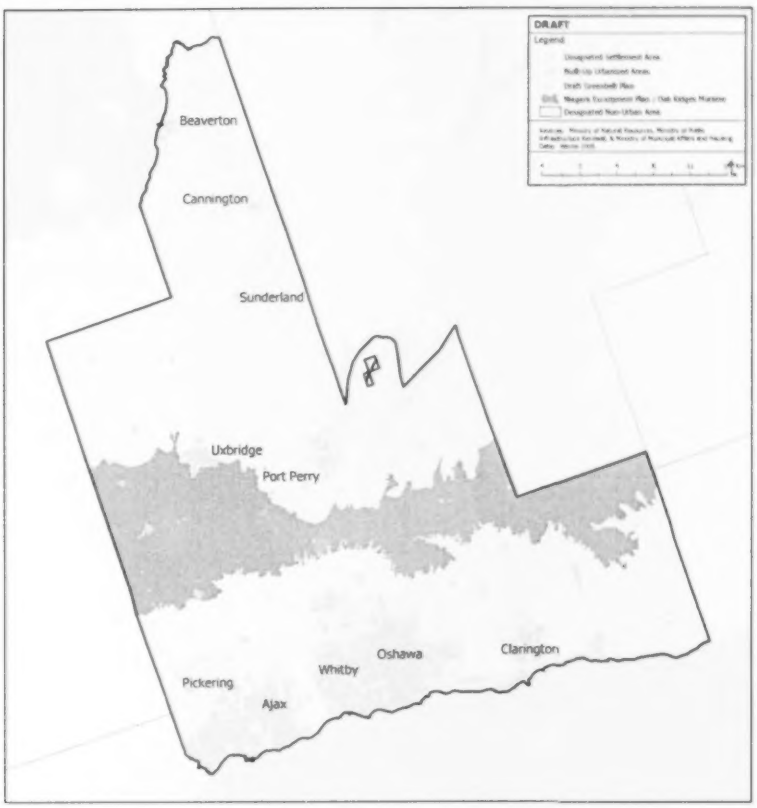
The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

COUNTY OF DUFFERIN

all figures in acres

Population (2001)	**53,000 people**
Size of the County of Dufferin	**369,900**

Designated Settlement Area		**8,500**
Built-Up Urbanized Area	3,800	
Protected Greenspace (not shown on map)	200	
Designated Growth Area	4,500	
Draft Greenbelt Plan Area		**68,200**
Oak Ridges Moraine Conservation Plan	1,300	
Niagara Escarpment Plan	47,600	
Designated Non-Urban Area		**297,300**
Protected Greenspace (not shown on map)	9,900	
Remaining lands designated Non-Urban	287,400	



The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

REGION OF DURHAM

all figures in acres

Population (2001)		**527,000 people**
Size of the Region of Durham		**626,800**
Designated Settlement Area		**104,500**
Built-Up Urbanized Area	58,400	
Protected Greenspace (not shown on map)	4,800	
Designated Growth Area	41,300	
Draft Greenbelt Plan Area		**503,200**
Oak Ridges Moraine Conservation Plan	131,500	
Niagara Escarpment Plan	n/a	
Designated Non-Urban Area		**34,300**
Protected Greenspace (not shown on map)	1,800	
Remaining lands designated Non-Urban	32,500	

The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

COUNTY OF HALDIMAND

all figures in acres

Population (2001)	**43,700 people**
Size of the County of Haldimand	**319,000**

Designated Settlement Area		**7,800**
Built-Up Urbanized Area	3,900	
Protected Greenspace (not shown on map)	200	
Designated Growth Area	3,700	
Draft Greenbelt Plan Area		**n/a**
Oak Ridges Moraine Conservation Plan	n/a	
Niagara Escarpment Plan	n/a	
Designated Non-Urban Area		**311,200**
Protected Greenspace (not shown on map)	14,900	
Remaining lands designated Non-Urban	296,300	

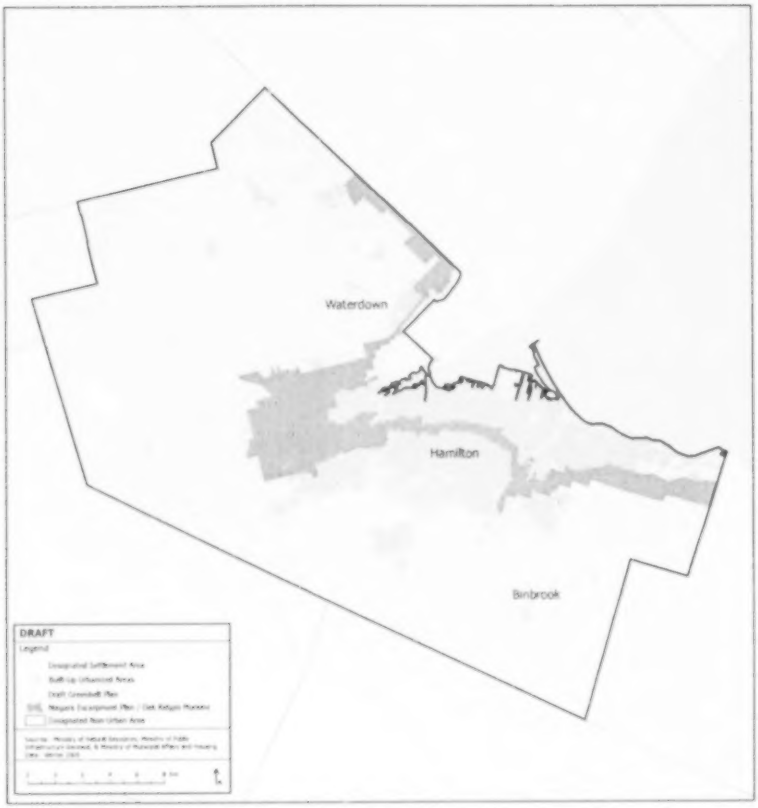
The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

REGION OF HALTON

all figures in acres

Population (2001)	**390,200 people**
Size of the Region of Halton	**242,400**

Designated Settlement Area		**77,700**
Built-Up Urbanized Area	45,500	
Protected Greenspace (not shown on map)	3,200	
Designated Growth Area	29,000	
Draft Greenbelt Plan Area		**132,100**
Oak Ridges Moraine Conservation Plan	n/a	
Niagara Escarpment Plan	55,400	
Designated Non-Urban Area		**38,200**
Protected Greenspace (not shown on map)	1,800	
Remaining lands designated Non-Urban	36,400	



The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

CITY OF HAMILTON

all figures in acres

Population (2001)	**510,100 people**
Size of the City of Hamilton	**279,700**

Designated Settlement Area		**62,300**
Built-Up Urbanized Area	43,700	
Protected Greenspace (not shown on map)	3,300	
Designated Growth Area	15,300	
Draft Greenbelt Plan Area		**217,000**
Oak Ridges Moraine Conservation Plan	n/a	
Niagara Escarpment Plan	26,900	
Designated Non-Urban Area		**17,900**
Protected Greenspace (not shown on map)	1,200	
Remaining lands designated Non-Urban	16,700	

The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

CITY OF KAWARTHA LAKES

all figures in acres

Population (2001)		**71,800 people**
Size of the City of Kawartha Lakes		**777,300**
Designated Settlement Area		**12,900**
Built-Up Urbanized Area	6,800	
Protected Greenspace (not shown on map)	200	
Designated Growth Area	5,900	
Draft Greenbelt Plan Area		**31,700**
Oak Ridges Moraine Conservation Plan	31,600	
Niagara Escarpment Plan	n/a	
Designated Non-Urban Area		**733,400**
Protected Greenspace (not shown on map)	94,100	
Remaining lands designated Non-Urban	639,300	

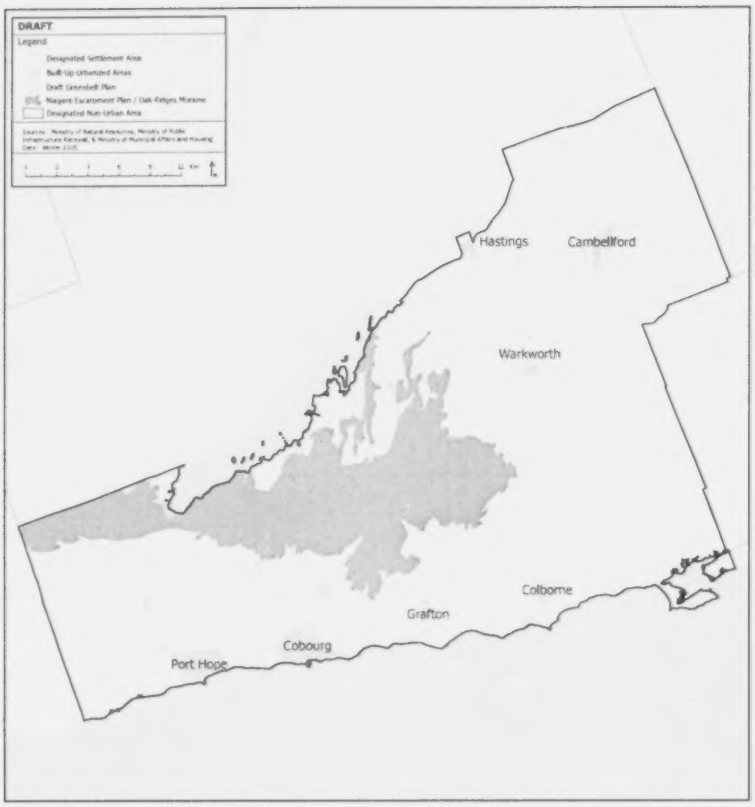
The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

REGION OF NIAGARA

all figures in acres

Population (2001)	**426,500 people**
Size of the Region of Niagara	**462,500**

Designated Settlement Area		**86,300**
Built-Up Urbanized Area	54,200	
Protected Greenspace (not shown on map)	700	
Designated Growth Area	31,400	
Draft Greenbelt Plan Area		**129,700**
Oak Ridges Moraine Conservation Plan	n/a	
Niagara Escarpment Plan	33,600	
Designated Non-Urban Area		**262,400**
Protected Greenspace (not shown on map)	17,600	
Remaining lands designated Non-Urban	244,800	



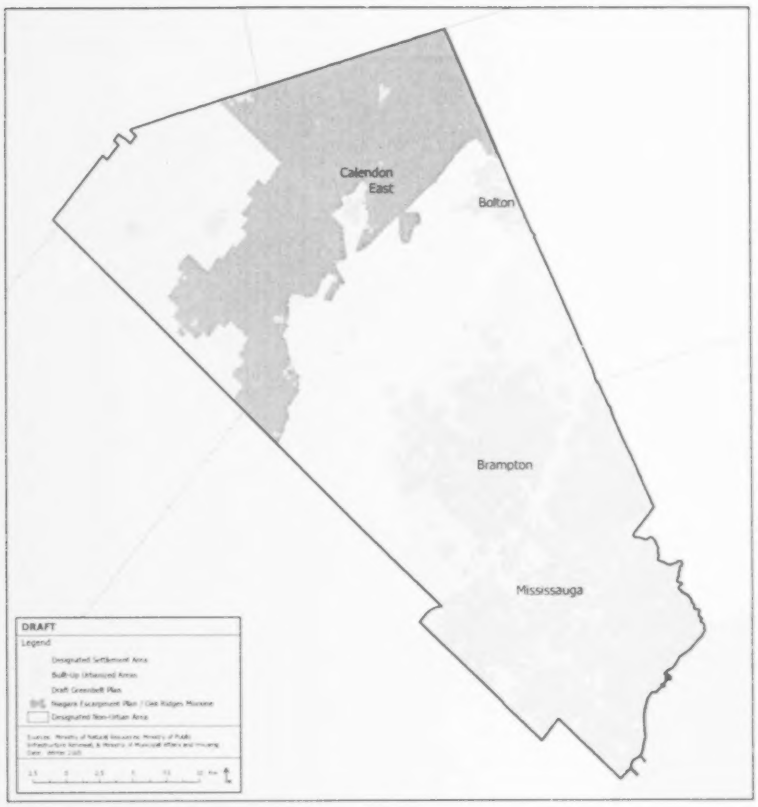
The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

COUNTY OF NORTHUMBERLAND

all figures in acres

Population (2001)	**80,500 people**
Size of the County of Northumberland	**495,900**

Designated Settlement Area		**16,800**
Built-Up Urbanized Area	8,400	
Protected Greenspace (not shown on map)	100	
Designated Growth Area	8,300	
Draft Greenbelt Plan Area		**87,300**
Oak Ridges Moraine Conservation Plan	87,100	
Niagara Escarpment Plan	n/a	
Designated Non-Urban Area		**392,800**
Protected Greenspace (not shown on map)	19,600	
Remaining lands designated Non-Urban	373,200	



The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

REGION OF PEEL

all figures in acres

Population (2001)		**1,032,300 people**
Size of the Region of Peel		**310,000**
Designated Settlement Area		**141,000**
Built-Up Urbanized Area	101,200	
Protected Greenspace (not shown on map)	7,400	
Designated Growth Area	32,400	
Draft Greenbelt Plan Area		**138,000**
Oak Ridges Moraine Conservation Plan	39,200	
Niagara Escarpment Plan	33,900	
Designated Non-Urban Area		**35,600**
Protected Greenspace (not shown on map)	400	
Remaining lands designated Non-Urban	35,200	

The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

COUNTY OF PETERBOROUGH

all figures in acres

Population (2001)		**130,700 people**
Size of the County of Peterborough		**993,100**
Designated Settlement Area		**26,000**
Built-Up Urbanized Area	14,200	
Protected Greenspace (not shown on map)	100	
Designated Growth Area	11,700	
Draft Greenbelt Plan Area		**17,300**
Oak Ridges Moraine Conservation Plan	17,500	
Niagara Escarpment Plan	n/a	
Designated Non-Urban Area		**949,900**
Protected Greenspace (not shown on map)	154,400	
Remaining lands designated Non-Urban	795,500	

The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

COUNTY OF SIMCOE

all figures in acres

Population (2001)	**391,800 people**
Size of the County of Simcoe	**1,213,000**

Designated Settlement Area		**102,500**
Built-Up Urbanized Area	48,600	
Protected Greenspace (not shown on map)	3,400	
Designated Growth Area	50,500	
Draft Greenbelt Plan Area		**58,400**
Oak Ridges Moraine Conservation Plan	24,300	
Niagara Escarpment Plan	27,900	
Designated Non-Urban Area		**1,052,500**
Protected Greenspace (not shown on map)	80,100	
Remaining lands designated Non-Urban	972,400	

The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

CITY OF TORONTO

all figures in acres

Population (2001)		**2,592,500 people**
Size of the City of Toronto		**156,700**
Designated Settlement Area		**150,800**
Built-Up Urbanized Area	144,400	
Protected Greenspace (not shown on map)	6,400	
Designated Growth Area	0	
Draft Greenbelt Plan Area		**5,700**
Oak Ridges Moraine Conservation Plan	n/a	
Niagara Escarpment Plan	n/a	
Designated Non-Urban Area		**200**
Protected Greenspace (not shown on map)	100	
Remaining lands designated Non-Urban	100	

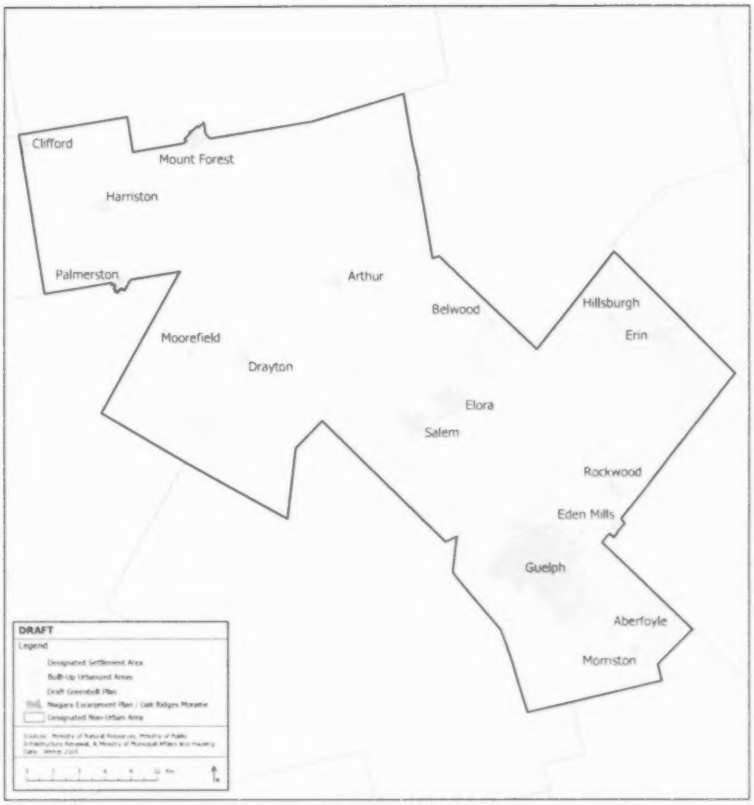
The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

REGION OF WATERLOO

all figures in acres

Population (2001)	**456,300 people**
Size of the Region of Waterloo	**340,900**

Designated Settlement Area		**80,600**
Built-Up Urbanized Area	50,200	
Protected Greenspace (not shown on map)	2,500	
Designated Growth Area	27,900	
Draft Greenbelt Plan Area		**n/a**
Oak Ridges Moraine Conservation Plan	n/a	
Niagara Escarpment Plan	n/a	
Designated Non-Urban Area		**260,400**
Protected Greenspace (not shown on map)	6,700	
Remaining lands designated Non-Urban	253,700	



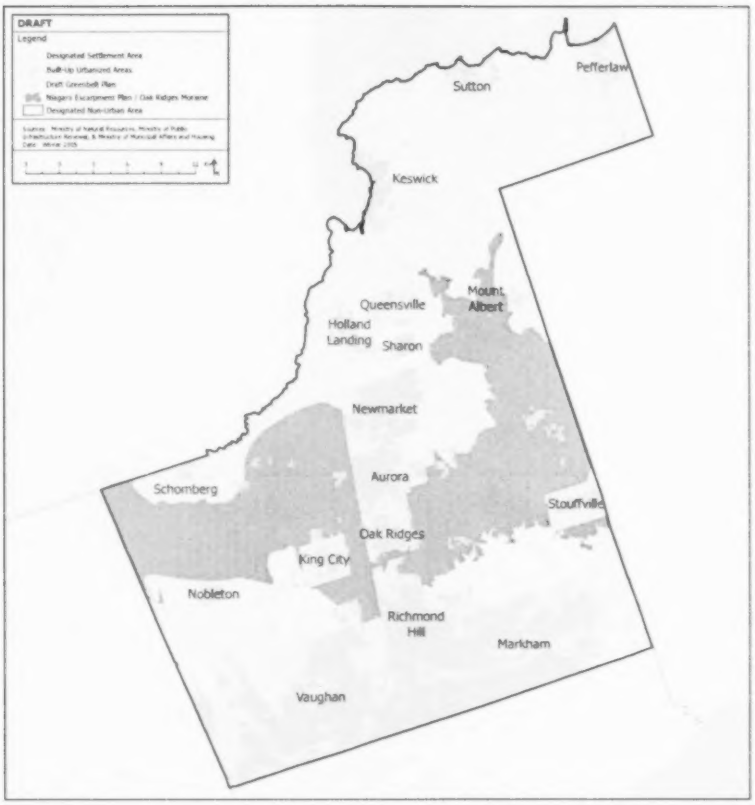
The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

COUNTY OF WELLINGTON

all figures in acres

Population (2001)	**194,800 people**
Size of the County of Wellington	**667,100**

Designated Settlement Area		**39,800**
Built-Up Urbanized Area	22,200	
Protected Greenspace (not shown on map)	1,600	
Designated Growth Area	16,000	
Draft Greenbelt Plan Area		**41,600**
Oak Ridges Moraine Conservation Plan	n/a	
Niagara Escarpment Plan	n/a	
Designated Non-Urban Area		**588,400**
Protected Greenspace (not shown on map)	33,400	
Remaining lands designated Non-Urban	555,000	



The boundaries displayed in the map above are draft and illustrative only and should not be read to scale. They do not claim to accurately reflect approved land-use and planning boundaries. For more information on precise boundaries of Settlement Area, Towns, Villages and Hamlets, the appropriate municipality should be consulted.

REGION OF YORK

all figures in acres

Population (2001)		**759,300 people**
Size of the Region of York		**437,600**
Designated Settlement Area		**156,000**
Built-Up Urbanized Area	93,800	
Protected Greenspace (not shown on map)	5,500	
Designated Growth Area	56,700	
Draft Greenbelt Plan Area		**303,900**
Oak Ridges Moraine Conservation Plan	137,800	
Niagara Escarpment Plan	n/a	
Designated Non-Urban Area		**29,800**
Protected Greenspace (not shown on map)	1,800	
Remaining lands designated Non-Urban	28,000	

APPENDIX A: Other Land Supply Analyses in the Greater Golden Horseshoe

Other organizations have recently undertaken similar assessments of land supply availability in the Greater Golden Horseshoe area. A brief summary of the methodology and data sources used in these analyses is provided for comparative purposes.

Malone Given Parsons, *Analysis of Land Supply in the GTA - Hamilton Area (2004)*

Malone Given Parsons Ltd. (MGP), on behalf of the Urban Development Institute (UDI) has assessed the adequacy of the long-term residential and employment land supply in the GTA-Hamilton Area.

MGP approached this analysis using approved municipal and regional official plan land use designations and where considered appropriate, consolidated uses into simplified categories. These were then displayed on a 2001 road network provided by DMTI. Urbanized, Urban Vacant and Vacant Non Urban areas were determined from this information by a process that first involved assuming that all lands without a road fabric were vacant. This information was then distributed to the different Regions and Municipalities for review. In some cases the information was modified based on the results of their review. The analysis was also verified using a separate mapping source provided by MapArt.

MGP quantified the extent of the urban land areas available on both a gross and net basis. The Gross Urbanized Land area included all lands within approved Official Plans currently occupied by urban uses including open space. The Gross Vacant Urban Area is the remaining lands within approved Official Plans, not occupied as of 2001.

A calculation of the Net Land Areas was undertaken in order to more accurately assess the amount of development land potentially available. Major airports, power stations, 400 series highways, and open space features were excluded to determine the net land areas. In the Vacant Urban and Vacant Non-Urban Areas provision was made for arterial roads (36 metre right-of-way) and for 30 metre buffers around open space features such as woodlots, wetlands and watercourses.

Neptis Foundation, unpublished

The Neptis Foundation has developed a method for identifying and tracking lands that are part of the contiguous existing built urban area in the Greater Golden Horseshoe. The objectives of the research were to create a semi-automated method that could be repeated inexpensively and to derive a product that would be sufficiently accurate for the purpose of planning at the regional scale.

The Neptis Foundation utilized Landsat TM 5 satellite imagery (Summer 2004) and the Canadian National Road Network (November 2003) data to derive the "built" urbanized land layer. The designated settlement area (unbuilt) data layer is based on approved settlement area boundaries in municipal Official Plans.

Calculations to date for all figures developed by the Neptis Foundation are considered gross area estimates.

APPENDIX B: Factors that Impact Land Demand

In addition to the availability of land, there are many factors that influence the amount of land required to accommodate future development. Some of these factors include:

- *Demographic changes over time*: Shifts in demographics can have significant effects on housing and employment choices. For example, data from Statistics Canada indicates that in the GTA there is a tendency for different age groups to reside in certain types of housing. For example, households headed by those in their 20s and early 30s are likely to reside in apartments and rowhouses, while those in their 40s and 50s are more likely to reside in single-family, detached dwellings.

- *Household size*: The number of people in a household can influence housing demand. With the persons per household expected to decline in the future, it could mean an increased housing demand (even with a stable population).

- *Density and built form (multi-residential, townhouse or detached)*: Increased density in housing types can reduce the amount of new land required for housing. Higher-density development in employment lands similarly lessens the demand for new land.

- *Future employment uses*: the type of employment uses – for example, office or manufacturing has an effect on land demand. Some employment uses, such as warehousing, can be land intensive.